

SEQUENCE LISTING

<110> CHUGAI SEIYAKU KABUSHIKI KAISHA

<120> Modified antibodies recognizing trimer receptor or higher

<130> C1-A0324P

<150> JP 2003-415735

<151> 2003-12-12

<160> 42

<170> PatentIn version 3.1

<210> 1

<211> 797

<212> DNA

<213> Artificial

<220>

<223> An artificially synthesized nucleotide sequence

<400> 1

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ctgagactct cctgtgcagc ctctggattc accttttagca gctatgccat gagctgggtc 180

cgccaggctc cagggaaggg gctggagtgg gtctcagcta ttagtggttag tggtagtagc 240

agatactacg cagactccgt gaagggccgg ttcaccatct ccagagacaa ttccaagaac 300

acgctgtatc tgcaaatgaa cagcctgaga gccgaggaca cggccgtata ttactgtgcg 360

aaagagagca gtggctgggt cggggccttt gactactggg gccagggaac cctggtcacc 420
 gtctcctcag gtggagaaat tgtgctgact cagtctccag actttcagtc tgtgactcca 480
 aaggagaaag tcaccatcac ctgccgggcc agtcagagca ttggtagtag cttacactgg 540
 taccagcaga aaccagatca gtctccaaag ctctcatca agtatgcttc ccagtccttc 600
 tcaggggtcc cctcgaggtt cagtggcagt ggatctggga cagatttcac cctcaccatc 660
 aatagcctgg aagctgaaga tgctgcagcg tattactgtc atcagagtag tagtttacg 720
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 tgataagcgg ccgcaat 797

<210> 2

<211> 256

<212> PRT

<213> Artificial

<220>

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<400> 2

Met Glu Phe Gly Leu Ser Trp Leu Phe Leu Val Ala Ile Leu Lys Gly
 1 5 10 15

Val Gln Cys Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln
 20 25 30

Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
 35 40 45

Ser Ser Tyr Ala Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu

50		55		60
Glu Trp Val Ser Ala Ile Ser Gly Ser Gly Gly Ser Arg Tyr Tyr Ala				
65		70		75
80				
Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn				
	85		90	
				95
Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val				
	100		105	
				110
Tyr Tyr Cys Ala Lys Glu Ser Ser Gly Trp Phe Gly Ala Phe Asp Tyr				
	115		120	
				125
Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Gly Gly Glu Ile Val				
	130		135	
				140
Leu Thr Gln Ser Pro Asp Phe Gln Ser Val Thr Pro Lys Glu Lys Val				
145		150		155
				160
Thr Ile Thr Cys Arg Ala Ser Gln Ser Ile Gly Ser Ser Leu His Trp				
	165		170	
				175
Tyr Gln Gln Lys Pro Asp Gln Ser Pro Lys Leu Leu Ile Lys Tyr Ala				
	180		185	
				190
Ser Gln Ser Phe Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser				
	195		200	
				205
Gly Thr Asp Phe Thr Leu Thr Ile Asn Ser Leu Glu Ala Glu Asp Ala				
	210		215	
				220
Ala Ala Tyr Tyr Cys His Gln Ser Ser Ser Leu Pro Ile Thr Phe Gly				
225		230		235
				240
Gln Gly Thr Arg Leu Glu Ile Lys Asp Tyr Lys Asp Asp Asp Asp Lys				

245

250

255

<210> 3

<211> 794

<212> DNA

<213> Artificial

<220>

<223> An artificially synthesized nucleotide sequence

<400> 3

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ctgagactct cctgtgcagc ctctggattc accttttagca gctatgccat gagctgggtc 180

cgccaggctc cagggaaggg gctggagtgg gtctcagcta ttagtggttag tggtagtagc 240

agatactacg cagactccgt gaagggccgg ttcacatct ccagagacaa ttccaagaac 300

acgctgtatc tgcaaatgaa cagcctgaga gccgaggaca cggccgtata ttactgtgcg 360

aaagagagca gtggctgggt cggggccttt gactactggg gccagggaac cctgggtcacc 420

gtctcctcag gtgaaattgt gctgactcag tctccagact ttcagtctgt gactccaaag 480

gagaaagtca ccatcacctg ccgggccagt cagagcattg gtagtagctt aactgggtac 540

cagcagaaac cagatcagtc tccaaagctc ctcatcaagt atgcttccca gtccttctca 600

ggggtcccct cgaggttcag tggcagtgga tctgggacag atttcaccct caccatcaat 660

agcctggaag ctgaagatgc tgcagcgtat tactgtcatc agagtagtag ttaccgatc 720

accttcggcc aagggacacg actggagatt aaagactaca aggatgacga cgataagtga 780

taagcggccg caat 794

<210> 4

<211> 255

<212> PRT

<213> Artificial

<220>

<223> An artificially synthesized peptide sequence

<400> 4

Met Glu Phe Gly Leu Ser Trp Leu Phe Leu Val Ala Ile Leu Lys Gly
1 5 10 15

Val Gln Cys Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln
20 25 30

Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
35 40 45

Ser Ser Tyr Ala Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
50 55 60

Glu Trp Val Ser Ala Ile Ser Gly Ser Gly Gly Ser Arg Tyr Tyr Ala
65 70 75 80

Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
85 90 95

Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
100 105 110

Tyr Tyr Cys Ala Lys Glu Ser Ser Gly Trp Phe Gly Ala Phe Asp Tyr

115	120	125
Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Gly Glu Ile Val Leu		
130	135	140
Thr Gln Ser Pro Asp Phe Gln Ser Val Thr Pro Lys Glu Lys Val Thr		
145	150	155 160
Ile Thr Cys Arg Ala Ser Gln Ser Ile Gly Ser Ser Leu His Trp Tyr		
165	170	175
Gln Gln Lys Pro Asp Gln Ser Pro Lys Leu Leu Ile Lys Tyr Ala Ser		
180	185	190
Gln Ser Phe Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly		
195	200	205
Thr Asp Phe Thr Leu Thr Ile Asn Ser Leu Glu Ala Glu Asp Ala Ala		
210	215	220
Ala Tyr Tyr Cys His Gln Ser Ser Ser Leu Pro Ile Thr Phe Gly Gln		
225	230	235 240
Gly Thr Arg Leu Glu Ile Lys Asp Tyr Lys Asp Asp Asp Asp Lys		
245	250	255

<210> 5

<211> 791

<212> DNA

<213> Artificial

<220>

<223> An artificially synthesized nucleotide sequence

<400> 5

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ctgagactct cctgtgcagc ctctggattc acctttagca gctatgccat gagctgggtc	180
cgccaggctc caggggaaggg gctggagtgg gtctcagcta ttagtggtag tggtagtagc	240
agatactacg cagactccgt gaagggccgg ttcacatct ccagagacaa ttccaagaac	300
acgtgtatc tgcaaatgaa cagcctgaga gccgaggaca cggccgtata ttactgtgcg	360
aaagagagca gtggctgggtt cggggccttt gactactggg gccagggaac cctggtcacc	420
gtctcctcag aaattgtgct gactcagtct ccagactttc agtctgtgac tccaaaggag	480
aaagtcacca tcacctgccg ggccagtcag agcattggta gtagcttaca ctggtaccag	540
cagaaaccag atcagtctcc aaagctcctc atcaagtatg cttcccagtc cttctcaggg	600
gtcccctcga ggttcagtgg cagtggatct gggacagatt tcaccctcac catcaatagc	660
ctggaagctg aagatgctgc agcgtattac tgtcatcaga gtagtagttt accgatcacc	720
ttcggccaag ggacacgact ggagattaaa gactacaagg atgacgacga taagtgataa	780
gcggccgcaa t	791

<210> 6

<211> 254

<212> PRT

<213> Artificial

<220>

<223> An artificially synthesized peptide sequence

<400> 6

Met Glu Phe Gly Leu Ser Trp Leu Phe Leu Val Ala Ile Leu Lys Gly
 1 5 10 15

Val Gln Cys Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln
 20 25 30

Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
 35 40 45

Ser Ser Tyr Ala Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
 50 55 60

Glu Trp Val Ser Ala Ile Ser Gly Ser Gly Gly Ser Arg Tyr Tyr Ala
 65 70 75 80

Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
 85 90 95

Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
 100 105 110

Tyr Tyr Cys Ala Lys Glu Ser Ser Gly Trp Phe Gly Ala Phe Asp Tyr
 115 120 125

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Glu Ile Val Leu Thr
 130 135 140

Gln Ser Pro Asp Phe Gln Ser Val Thr Pro Lys Glu Lys Val Thr Ile
 145 150 155 160

Thr Cys Arg Ala Ser Gln Ser Ile Gly Ser Ser Leu His Trp Tyr Gln
 165 170 175

Gln Lys Pro Asp Gln Ser Pro Lys Leu Leu Ile Lys Tyr Ala Ser Gln

180	185	190
Ser Phe Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr		
195	200	205
Asp Phe Thr Leu Thr Ile Asn Ser Leu Glu Ala Glu Asp Ala Ala Ala		
210	215	220
Tyr Tyr Cys His Gln Ser Ser Ser Leu Pro Ile Thr Phe Gly Gln Gly		
225	230	235
		240
Thr Arg Leu Glu Ile Lys Asp Tyr Lys Asp Asp Asp Asp Lys		
245	250	

<210> 7

<211> 1538

<212> DNA

<213> Artificial

<220>

<223> An artificially synthesized nucleotide sequence

<400> 7

tagaattcca ccatggagtt tgggctgagc tggctttttc ttgtggctat tttaaaggt 60

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ctgagactct cctgtgcagc ctctggattc accttttagca gctatgccat gagctgggtc 180

cgccaggctc cagggaaggg gctggagtgg gtctcagcta ttagtggttag tggtagtagc 240

agatactacg cagactccgt gaagggccgg ttcacatct ccagagacaa ttccaagaac 300

acgctgtatc tgcaaatgaa cagcctgaga gccgaggaca cggccgtata ttactgtgcg 360

aaagagagca gtggctgggt cggggccttt gactactggg gccagggaac cctggtcacc	420
gtctcctcag gtggaggcgg atcggaatt gtgctgactc agtctccaga ctttcagtct	480
gtgactccaa aggagaaagt caccatcacc tgccgggcca gtcagagcat tggtagtagc	540
ttacactggg accagcagaa accagatcag tctccaaagc tctcatcaa gtatgcttcc	600
cagtccttct caggggtccc ctcgaggttc agtggcagtg gatctgggac agatttcacc	660
ctcaccatca atagcctgga agctgaagat gctgcagcgt attactgtca tcagagtagt	720
agtttaccga tcaccttcgg ccaagggaca cgactggaga ttaaagagc tgatgctgca	780
gctgcaggag gtcccgggtc cgaggtacag ctgttgaggt ctgggggagg ctgtgtacag	840
cctgggaggt ccctgagact ctctgtgca gcctctggat tcacctttag cagctatgcc	900
atgagctggg tccgccaggc tccagggaag gggctggagt gggctctcagc tattagtggg	960
agtgggtgta gcagatacta cgcagactcc gtgaagggcc ggttcacat ctccagagac	1020
aattccaaga acacgctgta tctgcaaatg aacagcctga gagccgagga cacggccgta	1080
tattactgtg cgaaagagag cagtggctgg ttcggggcct ttgactactg gggccaggga	1140
accctgggtc ccgtctcctc aggtggaggc ggatcggaaa ttgtgctgac tcagtctcca	1200
gactttcagt ctgtgactcc aaaggagaaa gtcaccatca cctgccgggc cagtcagagc	1260
attggtagta gcttacactg gtaccagcag aaaccagatc agtctccaaa gctcctcatc	1320
aagtatgctt cccagtcctt ctcaggggtc ccctcgaggt tcagtggcag tggatctggg	1380
acagatttca ccctcaccat caatagcctg gaagctgaag atgctgcagc gtattactgt	1440

catcagagta gtagtttacc gatcaccttc ggccaaggga cacgactgga gattaaagac 1500

tacaaggatg acgacgataa gtgataagcg gccgcaat 1538

<210> 8

<211> 503

<212> PRT

<213> Artificial

<220>

<223> An artificially synthesized peptide sequence

<400> 8

Met	Glu	Phe	Gly	Leu	Ser	Trp	Leu	Phe	Leu	Val	Ala	Ile	Leu	Lys	Gly
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Val	Gln	Cys	Glu	Val	Gln	Leu	Leu	Glu	Ser	Gly	Gly	Gly	Leu	Val	Gln
			20					25						30	

Pro	Gly	Arg	Ser	Leu	Arg	Leu	Ser	Cys	Ala	Ala	Ser	Gly	Phe	Thr	Phe
			35				40					45			

Ser	Ser	Tyr	Ala	Met	Ser	Trp	Val	Arg	Gln	Ala	Pro	Gly	Lys	Gly	Leu
		50					55				60				

Glu	Trp	Val	Ser	Ala	Ile	Ser	Gly	Ser	Gly	Gly	Ser	Arg	Tyr	Tyr	Ala
65					70					75					80

Asp	Ser	Val	Lys	Gly	Arg	Phe	Thr	Ile	Ser	Arg	Asp	Asn	Ser	Lys	Asn
				85						90				95	

Thr	Leu	Tyr	Leu	Gln	Met	Asn	Ser	Leu	Arg	Ala	Glu	Asp	Thr	Ala	Val
								100						105	110

Tyr	Tyr	Cys	Ala	Lys	Glu	Ser	Ser	Gly	Trp	Phe	Gly	Ala	Phe	Asp	Tyr
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

115		120		125
Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser				
130		135		140
Glu Ile Val Leu Thr Gln Ser Pro Asp Phe Gln Ser Val Thr Pro Lys				
145		150		155
				160
Glu Lys Val Thr Ile Thr Cys Arg Ala Ser Gln Ser Ile Gly Ser Ser				
		165		170
				175
Leu His Trp Tyr Gln Gln Lys Pro Asp Gln Ser Pro Lys Leu Leu Ile				
		180		185
				190
Lys Tyr Ala Ser Gln Ser Phe Ser Gly Val Pro Ser Arg Phe Ser Gly				
		195		200
				205
Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Asn Ser Leu Glu Ala				
		210		215
				220
Glu Asp Ala Ala Ala Tyr Tyr Cys His Gln Ser Ser Ser Leu Pro Ile				
225		230		235
				240
Thr Phe Gly Gln Gly Thr Arg Leu Glu Ile Lys Arg Ala Asp Ala Ala				
		245		250
				255
Ala Ala Gly Gly Pro Gly Ser Glu Val Gln Leu Leu Glu Ser Gly Gly				
		260		265
				270
Gly Leu Val Gln Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser				
		275		280
				285
Gly Phe Thr Phe Ser Ser Tyr Ala Met Ser Trp Val Arg Gln Ala Pro				
		290		295
				300
Gly Lys Gly Leu Glu Trp Val Ser Ala Ile Ser Gly Ser Gly Gly Ser				

305		310		315		320
Arg Tyr Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp						
		325		330		335
Asn Ser Lys Asn Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu						
		340		345		350
Asp Thr Ala Val Tyr Tyr Cys Ala Lys Glu Ser Ser Gly Trp Phe Gly						
		355		360		365
Ala Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Gly						
		370		375		380
Gly Gly Gly Ser Glu Ile Val Leu Thr Gln Ser Pro Asp Phe Gln Ser						
385		390		395		400
Val Thr Pro Lys Glu Lys Val Thr Ile Thr Cys Arg Ala Ser Gln Ser						
		405		410		415
Ile Gly Ser Ser Leu His Trp Tyr Gln Gln Lys Pro Asp Gln Ser Pro						
		420		425		430
Lys Leu Leu Ile Lys Tyr Ala Ser Gln Ser Phe Ser Gly Val Pro Ser						
		435		440		445
Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Asn						
		450		455		460
Ser Leu Glu Ala Glu Asp Ala Ala Ala Tyr Tyr Cys His Gln Ser Ser						
465		470		475		480
Ser Leu Pro Ile Thr Phe Gly Gln Gly Thr Arg Leu Glu Ile Lys Asp						
		485		490		495
Tyr Lys Asp Asp Asp Asp Lys						

500

<210> 9

<211> 15

<212> DNA

<213> Artificial

<220>

<223> An artificial sequence encoding linker sequence

<400> 9

ggtggaggcg gatcg

15

<210> 10

<211> 5

<212> PRT

<213> Artificial

<220>

<223> An artificially synthesized linker sequence

<400> 10

Gly Gly Gly Gly Ser

1

5

<210> 11

<211> 24

<212> DNA

<213> Artificial

<220>

<223> An artificial sequence encoding flag tag sequence

<400> 11

gactacaagg atgacgacga taag

24

<210> 12

<211> 8

<212> PRT

<213> Artificial

<220>

<223> An artificially synthesized flag tag sequence

<400> 12

Asp Tyr Lys Asp Asp Asp Asp Lys

1

5

<210> 13

<211> 806

<212> DNA

<213> Artificial

<220>

<223> An artificially synthesized diabody sequence

<400> 13

tagaattcca ccatggagtt tgggctgagc tggctttttc ttgtggctat tttaaaaggt 60

gtccagtgtg aggtacagct gttggagtct gggggaggct tggtagagcc tgggaggtcc 120

ctgagactct cctgtgcagc ctctggattc accttttagca gctatgccat gagctgggtc 180

cgccaggctc cagggaaggg gctggagtgg gtctcagcta ttagtggttag tggtagtagc 240

agatactacg cagactccgt gaagggccgg ttcaccatct ccagagacaa ttccaagaac 300

acgctgtatc tgcaaatgaa cagcctgaga gccgaggaca cggccgtata ttactgtgcg 360
 aaagagagca gtggctgggt cggggccttt gactactggg gccagggaac cctggtcacc 420
 gtctcctcag gtggaggcgg atcggaatt gtgctgactc agtctccaga ctttcagtct 480
 gtgactccaa aggagaaagt caccatcacc tgccgggcca gtcagagcat tggtagtagc 540
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 cagtccttct caggggtccc ctcgaggttc agtggcagtg gatctgggac agatttcacc 660
 ctcacatca atagcctgga agctgaagat gctgcagcgt attactgtca tcagagtagt 720
 agtttacga tcaccttcgg ccaagggaca cgactggaga ttaaagacta caaggatgac 780
 gacgataagt gataagcggc cgcaat 806

<210> 14

<211> 94

<212> DNA

<213> Artificial

<220>

<223> An artificially synthesized oligonucleotide sequence

<400> 14

tagaattcca ccatggagtt tgggctgagc tggctttttc ttgtggctat tttaaaaggt 60

gtccagtgtg aggtacagct gttggagtct gggg 94

<210> 15

<211> 96

<212> DNA

<213> Artificial

<220>

<223> An artificially synthesized oligonucleotide sequence

<400> 15

tgctaaaggt gaatccagag gctgcacagg agagtctcag ggacctccca ggctgtacca 60

agcctccccc agactccaac agctgtacct cacact 96

<210> 16

<211> 97

<212> DNA

<213> Artificial

<220>

<223> An artificially synthesized oligonucleotide sequence

<400> 16

cctgtgcage ctctggattc acctttagca gctatgccat gagctgggtc cgccaggctc 60

cagggaaggg gctggagtgg gtctcagcta ttagtggt 97

<210> 17

<211> 99

<212> DNA

<213> Artificial

<220>

<223> An artificially synthesized oligonucleotide sequence

<400> 17

ttggaattgt ctctggagat ggtgaaccgg cccttcacgg agtctgcgta gatatctgcta 60

ccaccactac cactaatagc tgagacccac tccagcccc

99

<210> 18

<211> 103

<212> DNA

<213> Artificial

<220>

<223> An artificially synthesized oligonucleotide sequence

<400> 18

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gagagccgag gacacggccg tatattactg tgcgaaagag agc 103

<210> 19

<211> 87

<212> DNA

<213> Artificial

<220>

<223> An artificially synthesized oligonucleotide sequence

<400> 19

ggagacggtg accagggttc cctggcccca gtagtcaaag gccccgaacc agccactgct 60

ctctttcgca cagtaatata cggccgt 87

<210> 20

<211> 98

<212> DNA

<213> Artificial

<220>

<223> An artificially synthesized oligonucleotide sequence

<400> 20

tggggccagg gaaccctggt caccgtctcc tcaggtggag gcggatcgga aattgtgctg 60

actcagtctc cagactttca gtctgtgact ccaaagga 98

<210> 21

<211> 79

<212> DNA

<213> Artificial

<220>

<223> An artificially synthesized oligonucleotide sequence

<400> 21

taagctacta ccaatgctct gactggcccg gcaggtgatg gtgactttct cctttggagt 60

cacagactga aagtctgga 79

<210> 22

<211> 103

<212> DNA

<213> Artificial

<220>

<223> An artificially synthesized oligonucleotide sequence

<400> 22

cgggccagtc agagcattgg tagtagctta cactggtacc agcagaaacc agatcagtct 60

ccaaagctcc tcatcaagta tgcttcccag tccttctcag ggg 103

<210> 23

<211> 97

<212> DNA

<213> Artificial

<220>

<223> An artificially synthesized oligonucleotide sequence

<400> 23

gcttccaggc tattgatggt gagggtgaaa tctgtcccag atccactgcc actgaacctc 60

gaggggaccc ctgagaagga ctgggaagca tacttga 97

<210> 24

<211> 90

<212> DNA

<213> Artificial

<220>

<223> An artificially synthesized oligonucleotide sequence

<400> 24

tttcaccctc accatcaata gcctggaagc tgaagatgct gcagcgtatt actgtcatca 60

gagtagtagt ttaccgatca ccttcggcca 90

<210> 25

<211> 93

<212> DNA

<213> Artificial

<220>

<223> An artificially synthesized oligonucleotide sequence

<400> 25

attgcggccg cttatcactt atcgtcgtca tccttgtagt ctttaatctc cagtcgtgtc 60

ccttggccga aggtgatcgg taaactacta ctc 93

<210> 26

<211> 26

<212> DNA

<213> Artificial

<220>

<223> An artificially synthesized primer sequence

<400> 26

tagaattcca ccatggagtt tgggct 26

<210> 27

<211> 26

<212> DNA

<213> Artificial

<220>

<223> An artificially synthesized primer sequence

<400> 27

ggagacggtg accagggttc cctggc 26

<210> 28

<211> 26

<212> DNA

<213> Artificial

<220>

<223> An artificially synthesized primer sequence

<400> 28

tggggccagg gaaccctggt caccgt

26

<210> 29

<211> 26

<212> DNA

<213> Artificial

<220>

<223> An artificially synthesized primer sequence

<400> 29

attgcggccg cttatcactt atcgtc

26

<210> 30

<211> 35

<212> DNA

<213> Artificial

<220>

<223> An artificially synthesized primer sequence

<400> 30

tcctcaggtg gagaaattgt gctgactcag tctcc

35

<210> 31

<211> 36

<212> DNA

<213> Artificial

<220>

<223> An artificially synthesized primer sequence

<400> 31

aatttctcca cctgaggaga cggtgaccag ggttcc

36

<210> 32

<211> 32

<212> DNA

<213> Artificial

<220>

<223> An artificially synthesized primer sequence

<400> 32

tcctcaggtg aaattgtgct gactcagtct cc

32

<210> 33

<211> 36

<212> DNA

<213> Artificial

<220>

<223> An artificially synthesized primer sequence

<400> 33

cacaatttca cctgaggaga cggtgaccag ggttcc

36

<210> 34

<211> 32

<212> DNA

<213> Artificial

<220>

<223> An artificially synthesized primer sequence

<400> 34

gtctcctcag aaattgtgct gactcagtct cc

32

<210> 35

<211> 36

<212> DNA

<213> Artificial

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<213> Artificial

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